

Claims 1-8 and 12-16 were rejected under 35 U.S.C. §103(a) as being unpatentable over the '193 patent to Nesbitt in view of the '739 patent to Horiuchi et al., and U.S. Patent No. 4,884,814 to Sullivan.

Per the Examiner's request, Applicant submits herewith a copy of the pending claims (Exhibit 1) in copending Application No. 8-815556, currently under appeal.

In this response, Applicant presents clarifying remarks that are believed to remedy all of the Examiner's concerns and place all currently pending claims, i.e., 1-8 and 12-16, in condition for allowance.

A. The Claimed Invention

The present invention provides a multi-layered golf ball comprising covers that have a hard inner layer and a relatively soft outer layer. The improved multi-layer golf balls provide enhanced distance and durability properties, while at the same time offering the "feel" and spin characteristics associated with soft balata and balata-like covers known in the art.

The pending claims recite, in part, a golf ball comprising (i) a core, (ii) an inner cover layer molded on the core, and (iii) an outer cover layer molded on the inner cover layer. The pending claims also recite specific materials or characteristics for each of the layers. The pending claims further recite that the outer cover layer is relatively soft. And, all claims, as now amended, recite that the outer cover layer comprises an ionomeric material. It will be appreciated that although this feature may be recited differently in various claims, it is present in all pending claims.

B. Previously Submitted Evidence of Commercial Success

The commercial embodiment of the present invention golf ball is the Top-Flite® Strata™ golf ball. Spalding Sports Worldwide, Inc., has experienced incredible success in terms of sales, praise within the industry, and widespread adoption throughout the golf industry and related fields of its Strata™ balls.

In the February 7, 2000, Office Action, the Examiner expressed concern over evidence previously submitted by Applicant demonstrating the outstanding success of the Strata™ ball. Specifically, the Examiner stated:

The newspaper articles, advertisements etc. submitted do not completely identify what the Strata ball is made of. Applicant's claims encompass many materials. The claims could not possibly be commensurate in scope with the showing. The outer cover is said to be Balata in the submitted articles/advertisements. The current claims do not call for Balata in the outer cover.

Page 2 of Office Action mailed February 7, 2000.

The Examiner's concern is misplaced. Although many of the referenced articles refer to the cover of the Strata™ balls as "balata," that cover is actually designated as "ZS Balata." The Strata™ balls utilize an ionomeric resin and not conventional balata to form the outer cover layer. Spalding refers to these ionomeric materials as "ZS Balata" because they exhibit balata-like properties such as a soft feel and enhanced spin, without the disadvantages of conventional balata such as splitting and cutting tendencies.

A closer review of the previously submitted evidence reveals that the outer cover material of the Strata™ balls contains "ZS Balata":

The multi-layer ZS Balata covered ball is designed to deliver superior distance, unequaled spin control and the feel of a soft cover.

ZS BALATA

Super-soft ZS balata cover for highest spin.

Exhibit 1 submitted with the Preliminary Amendment filed July 23, 1998 (article dated May 2, 1996 in USA Today).

Top-Flite Strata Tour has a new ZS Balata™ outer cover that is also patented. Its advanced polymer construction makes it not only soft and resilient, but cut resistant.

Exhibit 33 submitted on July 23, 1998 (Top-Flite's website).

Furthermore, the outer covers of the present invention golf balls are described in the application as "offering the 'feel' and spin characteristics associated with soft balata and balata-like covers of the prior art." Page 1.

Accordingly, the claimed outer cover, its composition, and its properties directly correspond to the much applauded soft ZS Balata covering described by the media. Similarly, the claimed high acid ionomer inner cover and its relatively hard and stiff characteristics directly correspond to the "firm inner layer for maximum distance" noted by the industry (such as the May 2, 1996, article in USA Today). The unique characteristics of the claimed multi-layer ball, including enhanced distance and durability and spin control, are directly reflected in the rave reviews by the industry and associated media.

Applicant respectfully submits that the pending claims, particularly as now amended, are commensurate with the showing provided by the previously submitted evidence.

**C. Provisional Rejection of Claims 1-8 and 12-16 Under 35 U.S.C.
§101 Should be Withdrawn**

Claims 1-8 and 12-16 were provisionally rejected under 35 U.S.C. §101 as claiming the same invention as claims 1-13 of copending Application No. 8-815556. The '556 application is currently under appeal.

The independent claims, i.e., claims 1 and 12 of the present application have been amended to overcome the Examiner's rejection of claims 1-8 and 12-16 under 35 U.S.C. §101 as claiming the same invention as that of claims 1-13 of copending Application No. 8-815556. Claim 13 was previously amended.

In view of the amendments to independent claims 1 and 12 amended herein, and previously amended claim 13, the claims of the present application are not claiming the same invention as that of Application No. 8-815556. Accordingly, this ground of the rejection should be withdrawn.

D. Obviousness-Type Double Patenting Rejection of Claims 1-8 and 12-16 Should be Withdrawn

Claims 1-8 and 12-16 were rejected for obviousness-type double patenting as being unpatentable over claims 1-13 of copending Application No. 8-815556.

Applicant notes that Application No. 8-815556 is currently under appeal.

Applicant will readily file a terminal disclaimer in either the present application or Application No. 8-815556 , whichever issues later.¹

E. Rejection of Claims 1-5, 13, 14, and 16 Under 35 U.S.C. §103(a) Should be Withdrawn

Claims 1-5, 13, 14, and 16 were rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 4,431,193 to Nesbitt and U.S. Patent No. 5,222,739 to Horiuchi et al. In support of the rejection the Examiner stated:

Nesbitt discloses golf balls having a hard inner cover and a softer outer cover. The inner cover can be Surlyn 1605 and the outer cover can be Surlyn 1855 (col. 3 lines 28-30). The amount of acid in the inner cover ionomer is not limited. Surlyn 1605 has 15% acid (see Parnell col. 4, lines 65) which borders on applicant's acid range.

It is known that higher acid ionomers are superior in golf balls (see Horiuchi col. 1 line 56). It would have been obvious to use a slightly higher acid ionomer in the inner cover of Nesbitt's ball for the expected improvements.

Page 4 of February 7, 2000, Office Action.

Additionally, the Examiner stated:

The Examiner relies on Horiuchi to teach the benefits of high acid ionomers. Higher stiffness and higher impact resilience (resulting in better flying performance) is achieved when using ionomer of 16-30% acid. These are precisely the characteristics called for by Nesbitt for his inner layer (col. 57-60). Nesbitt does not explicitly teach

¹ The Examiner will appreciate that it would be improper to enter a terminal disclaimer in the first issuing case.

any acid level in his inner cover ionomer (although inherently 15% is used). One practicing Nesbitt's invention would select ionomers of high flexural modulus (i.e., stiffness) and coefficient of restitution (impact resilience). Ionomers of 16-30% acid meet the criteria.

Page 5 of February 7, 2000, Office Action.

Applicant submits that the combination of the '193 patent to Nesbitt and the '739 patent to Horiuchi et al. actually teach away from the subject matter of claims 1-5, 13, 14 and 16.

Claim 1, as now amended, recites a golf ball comprising a core, an inner cover layer comprising a high acid ionomer that includes as least 16% by weight acid and an outer cover layer that comprises a soft polymeric ionomer material having a flexural modulus from about 1,000 to about 30,000 psi.

Applicant submits that the '739 patent to Horiuchi clearly teaches the use of ionomers having 16% to 30% by weight acid in a single outer cover layer. Specifically, the Horiuchi et al. patent teaches:

It has been surprisingly found that a carboxyl-rich ionomer resin which contains 16 to 30% by weight of an alpha, beta-ethylenic unsaturated carboxylic acid significantly improves the properties of the golf balls, such as impact resilience and flying performance.

Col. 1, lines 31-36 of the '739 patent.

It is preferred that the carboxyl-rich ionomer resin of the present invention has a stiffness modulus of 3,000 to 6,000 Kgf/cm². Values of less than 3,000 Kg/cm² reduce impact resilience and those of more than 6,000 Kgf/cm² deteriorate hit feeling and durability when hit repeatedly.

Col. 2, lines 16-21 of the '739 patent.

A designer looking to the teachings of the '739 patent to Horiuchi et al. would be motivated to utilize a single cover layer configuration. If someone did look to the '739 patent in designing a multi-layer cover golf ball, one would be motivated to use the high acid ionomer taught by Horiuchi in an outer cover layer. There is no teaching in the '739 patent to Horiuchi to suggest that the benefits described therein are applicable or transferable to

an inner cover layer of a multi-layer golf ball. Specifically, there is no teaching in Horiuchi et al. to suggest that the benefits achieved utilizing the high acid ionomer as an outer cover are obtainable when the high acid ionomer is utilized as an inner cover layer in combination with an outer cover layer comprising a soft polymeric ionomer having a flexural modulus of from about 1,000 to 30,000 psi.

Additionally, following the teaching of the '193 patent, one would be motivated to use a relatively low acid ionomer such as Surlyn 1605 in the inner cover layer. As correctly pointed out by the Examiner, Surlyn 1605 is an ionomer comprising 15% acid.

Therefore, there is no motivation, other than through prohibited hindsight reconstruction in view of the claimed invention, to combine the '193 patent and the '739 patent to arrive at the present invention. The '193 patent to Nesbitt teaches relatively low acid ionomers and would teach away from using high acid ionomers. The '739 patent to Horiuchi et al. discloses high acid ionomers in outer covers (of a single cover layer golf ball) and would teach away from using high acid ionomers in an inner cover layer of a multi-layer golf ball.

Furthermore, none of the '193 patent to Nesbitt and the '739 patent to Horiuchi et al. discloses an outer cover layer comprising a soft polymeric ionomer having a flexural modulus of from about 1,000 to about 30,000 psi, as set forth in pending claims 1-5, 13, 14, and 16 of the present application.

For at least these reasons, Applicant submits that the rejection of claims 1-5, 13, 14, and 16 should be withdrawn.

**F. Rejections of Claims 1-8 and 12-16 Under 35 U.S.C. §103(a)
Should be Withdrawn**

The Examiner rejected claims 1-8 and 12-16 as being obvious over the previously discussed patents to Nesbitt and Horiuchi et al., in further view of U.S. Patent No. 4,884,814 to Sullivan et al.

The Examiner stated:

Nesbitt does not suggest his outer cover layer as being a blend of hard and soft ionomer. Blends of hard and soft ionomer are known to provide a balance of distance, spin and durability not obtainable from using a single ionomer (see Sullivan col. 3, lines 38-64).

It would have been obvious to use a blend of hard and soft ionomer as Nesbitt's outer cover for the expected benefits.

Applicant submits that the '814 patent to Sullivan is not particularly relevant to the patentability of the pending claims. The '814 patent is directed to golf balls having a single cover layer comprising a particular blend of ionomers. All pending claims recite a multi-layer golf ball having an inner cover layer of a particular composition and an outer cover layer having another particular composition.

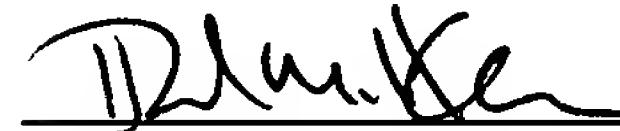
Furthermore, the pending claims, as amended, all recite an outer cover layer comprising an ionomer exhibiting a (low) flexural modulus of from about 1,000 psi to about 30,000 psi. The '814 patent to Sullivan describes a composition comprising a blend of hard and soft ionomer. Sullivan discloses that the respective components utilized in the cover, i.e., the hard and soft ionomers, exhibit a particular flexural modulus (see col. 4, lines 9-13; and col. 4, lines 37-39). However, neither Sullivan nor the other cited references, i.e., Nesbitt and/or Horiuchi et al., disclose or teach an outer cover layer exhibiting a flexural modulus from 1,000 to 30,000 psi.

The '814 patent to Sullivan does not remedy the deficiencies of the previously discussed combination of the '193 patent to Nesbitt in view of the '739 patent to Horiuchi et al. For at least these reasons, Applicant respectfully submits that the present rejection be withdrawn.

G. Conclusion

In view of the foregoing, Applicant respectfully submits that pending claims 1-8 and 12-16 are in condition for allowance. In the event that these claims are not allowed, Applicant requests the amendments to claims 1 and 12 be entered to place those claims in condition for appeal.

Respectfully submitted,
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CERTIFICATE OF MAILING

I hereby certify that this **RESPONSE** is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Honorable Commissioner of Patents and Trademarks, Washington, D.C. 20231, on June 7, 2000.

By: 
Kate Moore

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Pending Claims of Application No. 8-815556 (Currently Under Appeal)

1. A golf ball comprising:
 - a core;
 - an inner cover layer molded on said core, the inner cover layer comprising a high acid ionomer including at least 16% by weight of an alpha, beta-unsaturated carboxylic acid; and
 - an outer cover layer molded on said inner cover layer, said outer cover layer comprising a relatively soft polymeric material selected from the group consisting of low flexural modulus ionomer resins and non-ionomeric thermoplastic elastomers.
- 5
2. A golf ball according to claim 1 wherein the inner cover layer comprises a high acid ionomer resin comprising a copolymer of about 17% to about 25% by weight of an alpha, beta-unsaturated carboxylic acid.
3. A golf ball according to claim 1 wherein the inner cover layer comprises a high acid ionomer resin comprising a copolymer of about 18.5% to about 21.5% by weight of an alpha, beta-unsaturated carboxylic acid.
4. A golf ball according to claim 1, wherein the inner cover layer has a thickness of about 0.100 to about 0.010 inches and the outer cover layer has a thickness of about 0.010 to about 0.05 inches, the golf ball having an overall diameter of 1.680 inches or more.
5. A golf ball according to claim 1 wherein the inner cover layer has a thickness of about 0.300 inches and the outer cover layer has a thickness of about 0.375 inches, the golf ball having an overall diameter of 1.680 inches or more.
6. A golf ball according to claim 1 wherein the outer layer comprises a low flexural modulus ionomer resin which includes a blend of a hard high modulus ionomer with a soft low modulus ionomer, the high

modulus ionomer being a sodium, zinc, magnesium or lithium salt of a
5 copolymer having from 2 to 8 carbon atoms and an unsaturated monocarboxylic acid having from 3 to 8 carbon atoms, the low modulus ionomer being a sodium or zinc salt of a terpolymer of an olefin having 2 to 8 carbon atoms, acrylic acid and an unsaturated monomer of the acrylate ester class having from 1 to 21 carbon atoms.

7. A golf ball according to claim 6 wherein the outer layer composition includes 90 to 10 percent by weight of the hard high modulus ionomer resin and about 10 to 90 percent by weight of the soft low modulus ionomer resin.

8. A golf ball according to claim 6 wherein the outer layer recombination includes 75 to 25 percent by weight of the hard high modulus ionomer resin and about 25 to 75 percent by weight of the soft low modulus ionomer resin.

9. A golf ball according to claim 1 wherein the non-ionomer thermoplastic elastomer is a polyester polyurethane.

10. A golf ball according to claim 1 wherein the non-ionomer thermoplastic elastomer is a polyester elastomer.

11. A golf ball according to claim 1 wherein the non-ionomer thermoplastic elastomer is a polyester amide.

12. A multi-layer golf ball comprising:
5 a spherical core;
an inner cover layer molded over said spherical core,
said inner cover layer comprising an ionomer resin including at least 16%
by weight of an alpha, beta-unsaturated carboxylic acid and having a
modulus of from about 15,000 to about 70,000 psi;
an outer cover layer molded over said spherical
intermediate ball to form a multi-layer golf ball, the outer layer comprising a

blend of i) a sodium or zinc salt of a copolymer having from 2 to 8 carbon
10 atoms and an unsaturated monocarboxylic acid having from 3 to 8 carbon
atoms, and ii) a sodium or zinc salt of a terpolymer of an olefin having 2 to 8
carbon atoms, acrylic acid and an unsaturated monomer of the acrylate
ester class having from 1 to 21 carbon atoms, said outer cover layer having
a modulus in a range of about 1,000 to about 30,000 psi.

13. A multi-layer golf ball comprising:

a spherical core;

an inner cover layer molded over said spherical core to
form a spherical intermediate ball, said inner cover layer comprising an
ionomeric resin including about 17% to about 25% by weight of an alpha,
5 beta-unsaturated carboxylic acid and having a modulus of from about 15,000
to about 70,000 psi;

an outer cover layer molded over said spherical
intermediate ball to form a multi-layer golf ball, the outer layer comprising a
non-ionomeric thermoplastic selected from the group consisting of polyester
elastomer, polyester polyurethane and polyester amide, said outer cover
10 layer having a modulus in a range of about 1,000 to about 30,000 psi.